



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#15  
C. Guen  
9/25/02

In re the Application of: IGUCHI, Yuji et al.

Group Art Unit: 1774 ✓

Serial No.: 09/806,030 ✓

Examiner: Betelhem Shewareged ✓

Filed: March 26, 2001 ✓

P.T.O. Confirmation No.: 3374

For. ✓ **RECORDING SHEET AND METHOD FOR PRODUCING THE SAME**

**REQUEST FOR RECONSIDERATION**

Commissioner for Patents  
Washington, D.C. 20231

Date: September 20, 2002

Sir:

Reconsideration of the rejections contained in the Office Action of June 20, 2002, in view of the attached documents and the following comments is respectfully requested.

In the Office Action, the restriction requirement between claims 1-11 drawn to a recording sheet and claim 12 drawn to a method of making was reiterated. As required, the provisional election of claims 1-11 is hereby affirmed.

The specification was objected to and claims 1 to 11 were rejected under the first paragraph of 35 USC § 112 as failing to provide an adequate written description of the invention. In particular, it apparently was asserted that the reference to Japanese Industrial Standards was insufficient since the details of which were not set forth in the specification. Reconsideration of this rejection in view of the attached documents and the following comments is requested.

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In response to the above, it is noted that the examiner apparently indicated that submission of English language versions of the two cited Standards would be sufficient to overcome the objection and the rejection. Therefore, enclosed please find translations of JIS B 0601 and P 8142. Accordingly, withdrawal of the objection and the rejection under the first paragraph of 35 U.S.C. § 112 is respectfully requested.

Claims 1 to 5 were rejected under 35 USC § 102(e) as being anticipated by the patent to Nitta. In making this particular rejection, it was asserted that cited Nitta patent teaches an ink jet recording sheet of the structure as claimed. Further, it was asserted that the disclosed recording sheet inherently has the properties as claimed. Reconsideration of this rejection in view of the following comments is respectfully requested.

It is submitted that the patent to Nitta does not teach or suggest the presently claimed invention. More particularly, the Nitta patent discloses an ink jet recording sheet comprising a support. The disclosed support has a laminated structure wherein a stretched resin film is bonded to a woven fabric by an adhesive. An ink receiving layer is provided on the side of the support where the stretched resin film is present.

It is submitted that the structure disclosed in the Nitta patent is entirely different from the structure according to the present invention. Since the ink receiving layer is provided on the stretched resin film which is smooth and thus unlike a fabric, the ink receiving side

cannot derive roughness from the fabric. If a fabric is laminated on the opposite side, roughness of the fabric cannot be imparted to the ink receiving side even if pressure is applied to the laminate. In this regard, it is to be specifically noted that the Nitta patent discloses at column 7, lines 65-67 that if a hot-melt adhesive is used at a temperature higher than the stretching temperature, the stretched film may shrink. Therefore, the ink receiving layer of the final product has a smooth surface according to the teachings of the Nitta patent.

Furthermore, as described in column 6, line 47 to column 7, line 5 of the Nitta patent, inorganic particles are added to the stretched resin film. Since such a stretched resin film containing inorganic particles is opaque, the texture of the fabric cannot be observed from the ink receiving side.

The present specification at page 9, lines 7-14 states as follows:

"The pigment layer or the pigment component has the effects to fill up the voids present at intersections of warps and wefts constituting the fabric or to level differences present between warp and weft. Therefore, the ink receiving layer can readily exist in the form of a layer on the surface and good ink jet applicability can be attained."

Such an advantage cannot be attained when a stretched resin film is used in the same manner as in the Nitta patent.

With regard to the subject matter of claims 4 and 5 which recite that the fabric of the support comprises yarns having a diameter of not less than 200  $\mu\text{m}$ , it was asserted in the Action that the Nitta et al patent teaches a plane weave fabric having threads denier of 40-150 in which the denier overlaps with the claimed yarn diameter. It is submitted that this assertion is in error.

First, it must be recognized that denier is a unit of thickness of fiber. If a fiber having a length of 9,000 m weighs 1 g, the fiber is 1 denier. Thus, for example, a 17 denier fiber having a length of 9,000 m weighs 17 g.

Provided that a fiber has a completely cylindrical shape and a diameter of 200  $\mu\text{m}$  (lower limit as set forth in the present claims), the volume of the fiber is calculated as follows.

$$100 \mu\text{m (radius)} \times 100 \mu\text{m (radius)} \times \pi \times 9,000 \text{ m} =$$

$$0.01 \text{ cm} \times 0.01 \text{ cm} \times 3.14 \times 900,000 = 282.6 \text{ cm}^3$$

If this fiber is a polyester fiber, which has a density of 1.38  $\text{g/cm}^3$ , as in both the present invention and cited patent, the weight of the fiber is as follows:

$$282.6 \text{ cm}^3 \times 1.38 \text{ g/cm}^3 = 389.9 \text{ g}$$

Thus, a polyester fiber having a diameter of 200  $\mu\text{m}$  (lower limit as set forth in the subject claims) has a thickness of about 390 denier. As mentioned above, since the Nitta et al

patent teaches a fiber is 40-150 denier, the fiber as claimed in the present invention differs from that taught in the patent in this respect.

For the reasons stated above, withdrawal of the rejection under 35 U.S.C. § 102(e) and allowance of claims 1 through 5 over the cited Nitta patent are respectfully requested.

Claims 6-11 were rejected under 35 USC 103(a) as being unpatentable over the same patent to Nitta further in view of the patent to DeMatte and the website of Aerosil/Degussa. In making this rejection, the Nitta patent was applied as above rejection and it was asserted that the DeMatte patent teaches the inclusion of fumed silica of all the characteristics as claimed. The examiner concluded that it would be obvious to include the fumed silica according to the DeMatte patent in the recording sheet as taught by the Nitta patent. Reconsideration of this rejection in view of the following comments is respectfully requested.

The above remarks relative to the teaching deficiencies of the Nitta patent are reiterated with regard to this rejection. It is submitted that these teaching deficiencies are not supplied by the patent to DeMatte and the website of Aerosil/Degussa. More particularly, as asserted in the Action, the datasheet of the website states that AEROSIL MOX 170 has a BET surface area of 140-200 m<sup>2</sup>/g and a primary particle diameter of 15nm.

However, the present specification at page 15, lines 3-10, teaches that the primary particle diameter of the gas phase method silica is further preferably 3-15 nm and the BET surface area thereof is further preferably not less than 200 m<sup>2</sup>/g. In the Examples according to the present specification, a gas phase method silica having a primary particle diameter of 7 nm and a BET surface area of 380 m<sup>2</sup>/g is used, and as a result, appearance close to oil paintings is attained.

In addition, the present specification at page 13, lines 20-24 states as follows:

“Since the ink receiving layer using gas phase method silica can form a film which has high transparency and retains the feeling of the support and can give gloss, glossy feeling and stereoscopic feeling expressed by unevenness of weaves can be obtained.”

Therefore, a person of ordinary skill would not readily appreciate the advantages of the presently claimed invention from the teachings of the patent DeMatte and the datasheet according to the website.

In summary, the Nitta patent does not teach or suggest, among other things, a structure which would have the claimed roughness characteristics as well as the recited fiber diameter and DeMatte and the website are, among other things, silent on recited particle diameter and BET surface area value. Even in view of the datasheet, it is further submitted that there is no motivation to combine the teachings of the Nitta and DeMatte patents. Accordingly, withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 6 through 11 over the cited patents and publication are respectfully requested.

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In view of the foregoing, it is submitted that the subject application is now in condition for allowance and early notice to that effect is earnestly solicited.

In the event this paper is not timely filed, the undersigned hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

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